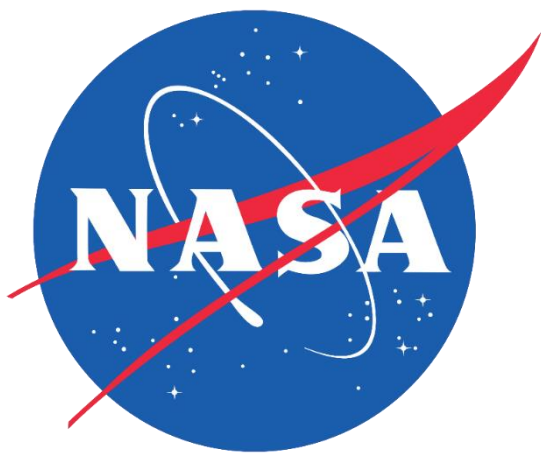
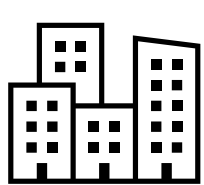
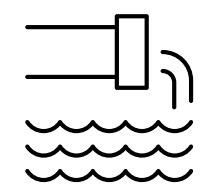





# Analyzing Precipitation and Land Cover Data to Refine the Assessment of Urban Flood Vulnerability



## COMMUNITY CONCERNS

-  Impervious surfaces in disinvested neighborhoods
-  Combined sewer overflows (CSOs)
-  Polluted runoff

Which communities in Kansas City, Kansas are most affected by **LOW STORMWATER RETENTION?**

## PROJECT OBJECTIVES

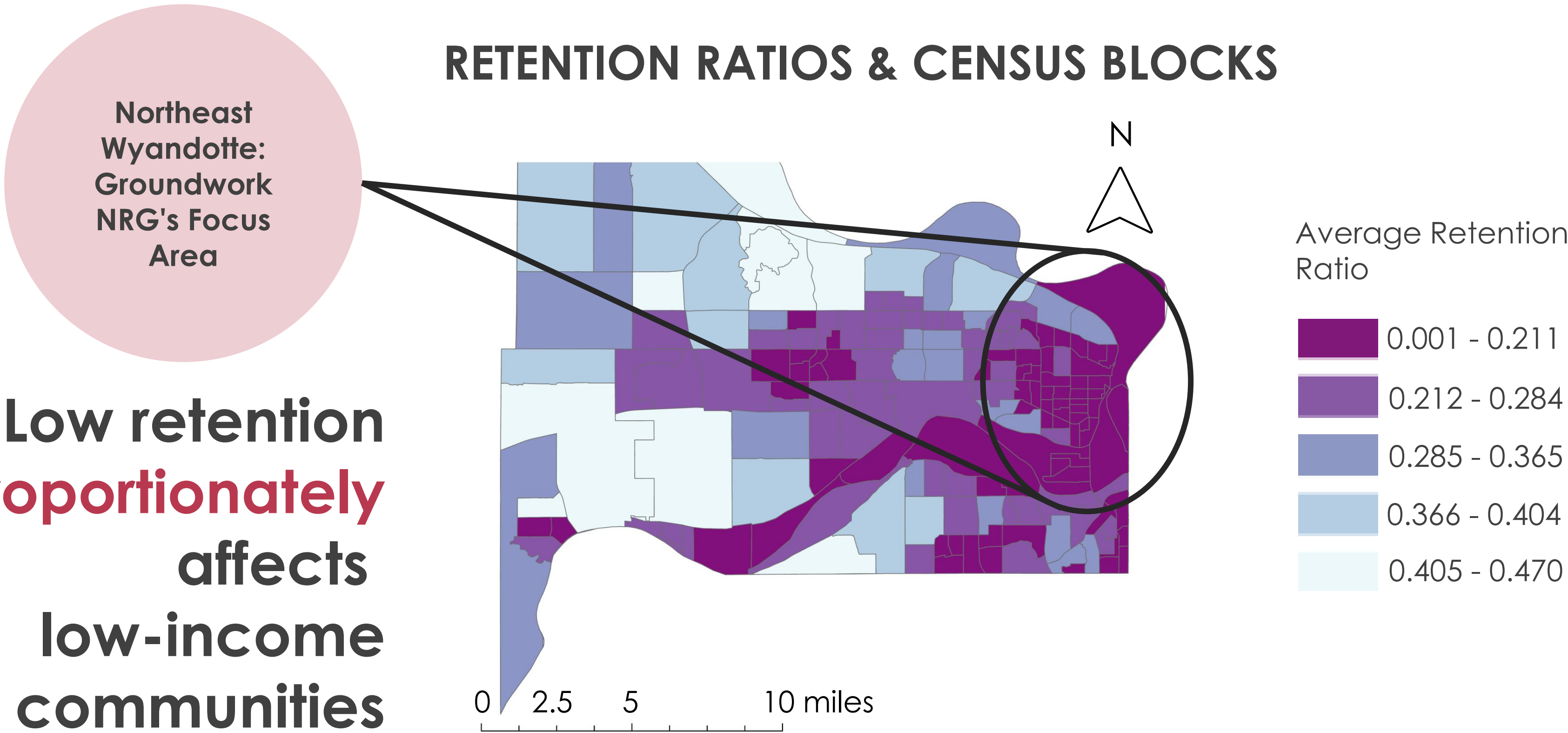
- 1 Examine inequitable distribution of ecosystem services affecting water quality and quantity
- 2 Explore implications of land cover and precipitation variance
- 3 Identify points of intervention for green infrastructure projects

### RUNDOWN ON RETENTION

Stormwater retention by soils is an **ecosystem service** which mitigates **flooding** and **waterway pollution** caused by **runoff**. This is inhibited by an abundance of **impervious surfaces** which prevent stormwater **infiltration** into soils and creates excess runoff that flows across the ground's surface, picking up pollutants and flooding urban environments.

Low retention disproportionately affects low-income communities

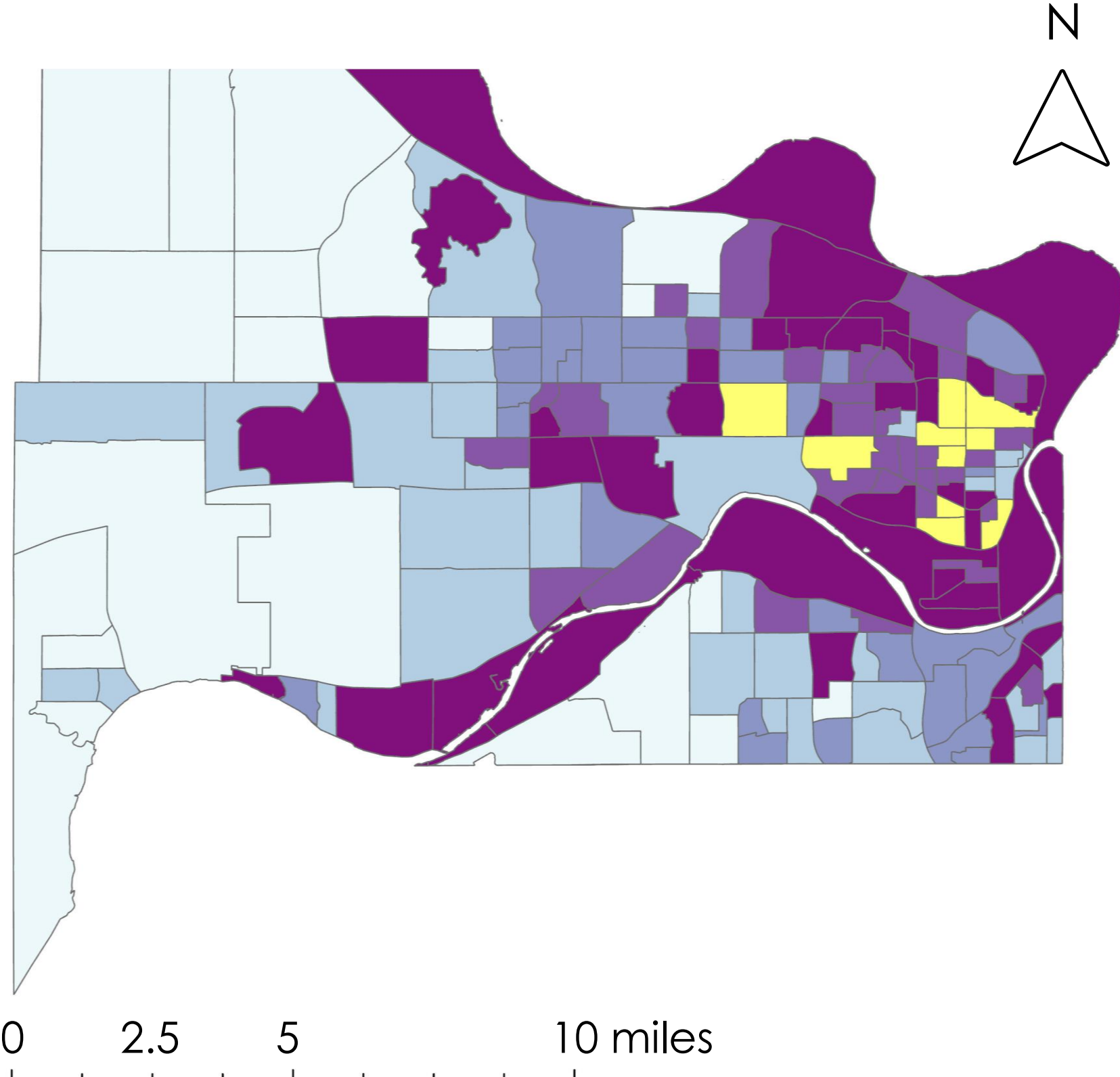
### RETENTION RATIOS & CENSUS BLOCKS



### GREEN INFRASTRUCTURE ANALYSIS

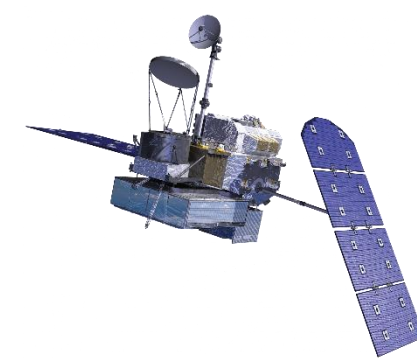
#### Green Infrastructure Analysis

- Higher socioeconomic vulnerability (dark purple)
- Lower socioeconomic vulnerability (light blue)
- Block candidates for green infrastructure (yellow)



Wyandotte County and Groundwork can better **prioritize green infrastructure initiatives** in areas where low retention ratios coincide with socioeconomic vulnerabilities

### Earth Observations



**GPM IMERG:** Integrated Multi-satellite Retrievals for Global Precipitation Measurement

### Acknowledgements

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Image credits: Made x Made (TheNounProject), NASA, DEVELOPERS

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